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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/239,020	01/29/1999	HIDEKAZU SHIMOMURA	35.C13298	5586

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

WORKU, NEGUSSIE

ART UNIT PAPER NUMBER

2626

DATE MAILED: 04/21/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/239,020

Applicant(s)

SHIMOMURA ET AL.

Examiner

Negussie Worku

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,10-15-17 and 19 is/are rejected.
- 7) ☐ Claim(s) 2-9 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's arguments with respect to claim 1, based on newly amended limitation have been reviewed and considered. However, applicant's amendment necessitated new ground(s) of rejection. Therefore, the current office action is final.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 10-15 and 17-19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (USP 5,482,381) in view of Kanai et al. (USP 6,118,570) and further in view of Minoura et al. (USP 4,993,792).

With respect to claim 1, Fujimoto discloses a color image reading apparatus (as shown in fig 1B), comprising: light-receiving means (line sensor 4 of fig 1B), formed by a plurality of line sensor (8, 9 and 10 of fig 1B, see col.3, lines 40-45), imaging means (lens 2 of fig 1B), for providing a light beam image of an object (1 of fig 1B): color separation means (3 of fig 1B), inserted in a first optical path between said imaging means (lens 2 of fig 1B), and light receiving means (sensor 4 of fig 1B), for color

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separating said scanning light beam into a plurality of color light beams, see (col.3, lines 29-34), and first optical means (lens 2 of fig 1B), inserted in a second path between the object (1 of fig 1B) and said imaging means (2 of fig 1B), for temporarily imaging the object (1 of fig 1B) in a sub-scan direction in said second optical path, see (col.3, lines 20-23).

Fujimoto does not disclose first optical means, wherein said first optical means has a power in the sub-scanning direction;

Kanai et al., In the same area of scanning optical apparatus discloses first optical means lens 3b of fig 1 and 2B), wherein said first optical means has a power in the sub-scanning direction, see (col.3, lines 41-43).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Fujimoto to include: the first optical means wherein has a power in the sub-scanning direction.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Fujimoto to include: the cylindrical lens which has a positive refractive power. Because of the following reasons: (a) it would have provided users a method for correcting the beam convergence by optically detecting the state of the convergence of the laser beam at equivalent position and moving the focusing lens to make focal correction, as discussed in col.1, lines 33-40, of Kanai et al.

Fujimoto as modified by Kanai et al. still do not teach a crosstalk preventing means, inserted in the path between said first optical means said imaging means.

Minoura, in the same area of scanning optical apparatus teaches a crosstalk preventing means (slit 9 of fig 1) inserted in the path between said first optical means (7 of fig 1) said imaging means (image forming medium 6 of fig 1, see col.1, lines 33-37).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Fujimoto imaging system as modified by Kanai et al., by providing a crosswalk preventing means, inserted in the path between said first optical means said imaging means.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Fujimoto's imaging system as modified by the Kanai by the teaching of Minoura for the purpose of preventing the position of the scanning line on the surface to be scanned from being varied by the falling of the deflecting-reflecting surface of the deflector or the falling of the rotational axis of the deflector, as discussed by Minoura see (col.1, lines 38-43).

With respect to claim 10, Fujimoto discloses an apparatus wherein said color-separation means (color separation 3 of fig 1B), separates an incoming light beam (light from light source 104 through mirror 102 of fig 1B) into three color light beams, (as shown in fig 1B) in a direction perpendicular to a line-up direction of pixels of said line sensors (104 of fig 1B).

With respect to claim 11, Fujimoto discloses the an apparatus according (as shown in claim 1B), further comprising first, second, and third mirrors (mirrors 31, 102 a 1b) inserted in the optical path between the object (1 of fig 1B) and said imaging means, (4 of fig 1B) and wherein said first cylinder means (2 of fig 1b) comprises at least two cylindrical lenses, (cylinder lens 2 has two parts on the left and right side), and a slit (104 of fig 1b), is placed at or near a position where the cylindrical lens (2 of fig 1B) placed on the object side temporarily images the object (1 of fig 1b).

With respect to claim 12, Fujimoto does not disclose, wherein the cylindrical lens placed on the object side has a positive refractive power, placed near the object.

Kanai et al. In the same area of scanning optical apparatus discloses wherein the cylindrical lens (lens 3b of fig 1) placed on the object side has a positive refractive power (lens 3b of fig 1 and 2B, has a power in the sub-scan direction placed near the object, see (col.3, lines 41-43).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Fujimoto by the teaching of Kanai et al, because of the following reasons: (a) it would have provided users a method for correcting the beam convergence by optically detecting the state of the convergence of the leaser beam at equivalent position and moving the focusing lens to make correction, as discussed in col.1, lines 33-40, of Kanai et al.

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With respect to claim 13, Fujimoto discloses an apparatus (as shown in fig 1B), wherein the cylindrical lens (2 of fig 1B) placed on the object side, and is inserted between said first and second mirrors (between 102 and 31 of fig 1B).

Fujimoto does not disclose, wherein the cylindrical lens has a positive refractive power.

Kanai et al. In the same area of scanning optical apparatus discloses wherein the cylindrical lens (lens 3b of fig 1) placed on the object side has a positive refractive power (lens 3b of fig 1 and 2B, has a power, see col.3, lines 41-43).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Fujimoto to include: the cylindrical lens has a positive refractive power. Because of the following reasons: (a) it would have provided users a method for correcting the beam convergence by optically detecting the state of the convergence of the laser beam at equivalent position and moving the focusing lens to make correction, as discussed in col.1, lines 33-40, of Kanai et al.

With respect to claim 14, Fujimoto discloses an apparatus (as shown in fig1B), wherein said slit (104 of fig 1B) and second mirror are integrated, (102 of fig 1B, represents scanning means comprising mirror, so as mirror 102 and slit 104 of fig 1B to make part of a larger unit or integrated, see col.3, lines 20-23).

With respect to claim 15, Fujimoto discloses an apparatus (as shown in fig 1B), wherein the cylindrical lens (2 of fig 1b) placed on the side of said imaging means (4 of fig 1B), and is placed in the vicinity of said imaging means (4 of fig 1b).

Fujimoto does not disclose, wherein the cylindrical lens placed on the object side has a positive refractive power.

Kanai et al. In the same area of scanning optical apparatus discloses wherein the cylindrical lens (lens 3b of fig 1) placed on the object side has a positive refractive power (lens 3b of fig 1 and 2B, has a power in the sub-scan direction placed near the object, see (col.3, lines 41-43).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the image reading apparatus of Fujimoto to include: the cylindrical lens which has a positive refractive power. Because of the following reasons: (a) it would have provided users a method for correcting the beam convergence by optically detecting the state of the convergence of the laser beam at equivalent position and moving the focusing lens to make focal correction, as discussed in col.1, lines 33-40, of Kanai et al.

With respect to claim 17, Fujimoto discloses an apparatus (as shown in fig 1B), wherein said color-separation means, (3 of fig 1b) comprises a transmission or reflection diffraction grating, see (col.3, line 28-30).

With respect to claim 18, Fujimoto discloses an apparatus wherein said color-separation means, (3 of fig 1A) comprises a diachronic prism or diachronic mirror; see (col.3, lines 28-30).

With respect to claim 19, Fujimoto discloses an apparatus (as shown in fig 1B), where said slit (104 of fig 1B, see col.3, lines 14-16) is placed at or near said first optical means (scanning means 102 of fig 1B, comprising mirror, see col.3, lines 63-65), temporarily images the object (1 of fig 1B).

Objected Claims having Allowable Subject Matter

4. Claims 2-9, and 16, are objected to as being dependent upon a rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

With respect to claims 2-9, the prior art does not show or disclose the line spacing correction means for correcting deviations of imaging positions on a surface of said light-receiving means caused by different wavelengths of the color light beams.

With respect to claim 16, the prior art does not show or disclose wherein said second and third mirrors construct an inverted-V-shape mirror unit.

Response to the Arguments

5. Applicants response filed Feb 09, 2004 have been fully considered and reviewed.

With regard to the rejection dated November 05 2003, applicant argues that prior arts does not teach or suggest a "slit used for preventing crosstalk can be located between the first optical means and imaging means to prevent cross talk from other region of the image" as stated in page 7, lines 4-7 of applicant's remarks.

Since applicant's arguments are based on the newly amended claimed limitation of the claim 1, the amended limitation is not disclosed by the references cited on the last office action.

However a new ground of rejection is submitted to address the amended limitation of claim 1. Examiner believes that the cited prior arts in combination discloses the newly amended limitation as discussed in the office action noted above.

Therefore, the function and disposition of a "slit used for preventing crosstalk can be located between the first optical means and imaging means to prevent crosstalk from other region of the image" is disclosed by Minoura in combination with Fujimoto/Kanai as discussed in the office action noted above.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Negussie Worku whose telephone number is 305-5441. The examiner can normally be reached on 7am-4pm.

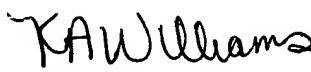
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Kimberly Williams** can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



04/15/04



KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER